

AD9991**Table XLII. V-Sequence 5 (VSEQ5) Register Map**

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|--|
| A8 | [1:0] | 0 | HBLKMASK_5 | Masking Polarity during HBLK. H1 [0]. H3 [1]. |
| | [2] | 0 | CLPOBPOL_5 | CLPOB Start Polarity |
| | [3] | 0 | PBLKPOL_5 | PBLK Start Polarity |
| | [7:4] | 0 | VPATSEL_5 | Selected V-Pattern Group for V-Sequence 5 |
| | [9:8] | 0 | VMASK_5 | Enable Masking of V-Outputs (Specified by Freeze/Resume Registers) |
| | [11:10] | 0 | HBLKALT_5 | Enable HBLK Alternation |
| | [23:12] | 0 | UNUSED | Unused |
| A9 | [11:0] | 0 | VPATREPO_5 | Number of Selected V-Pattern Group Repetitions for Odd Lines |
| | [23:12] | 0 | VPATREPE_5 | Number of Selected V-Pattern Group Repetitions for Even Lines |
| AA | [11:0] | 0 | VPATSTART_5 | Start Position in the Line for the Selected V-Pattern Group |
| | [23:12] | 0 | HDLEN_5 | HD Line Length (Number of Pixels) for V-Sequence 5 |
| AB | [11:0] | 0 | PBLKTOG1_5 | PBLK Toggle Position 1 for V-Sequence 5 |
| | [23:12] | 0 | PBLKTOG2_5 | PBLK Toggle Position 2 for V-Sequence 5 |
| AC | [11:0] | 0 | HBLKTOG1_5 | HBLK Toggle Position 1 for V-Sequence 5 |
| | [23:12] | 0 | HBLKTOG2_5 | HBLK Toggle Position 2 for V-Sequence 5 |
| AD | [11:0] | 0 | HBLKTOG3_5 | HBLK Toggle Position 3 for V-Sequence 5 |
| | [23:12] | 0 | HBLKTOG4_5 | HBLK Toggle Position 4 for V-Sequence 5 |
| AE | [11:0] | 0 | HBLKTOG5_5 | HBLK Toggle Position 5 for V-Sequence 5 |
| | [23:12] | 0 | HBLKTOG6_5 | HBLK Toggle Position 6 for V-Sequence 5 |
| AF | [11:0] | 0 | CLPOBTOG1_5 | CLPOB Toggle Position 1 for V-Sequence 5 |
| | [23:12] | 0 | CLPOBTOG2_5 | CLPOB Toggle Position 2 for V-Sequence 5 |

Table XLIII. V-Sequence 6 (VSEQ6) Register Map

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|--|
| B0 | [1:0] | 0 | HBLKMASK_6 | Masking Polarity during HBLK. H1 [0]. H3 [1]. |
| | [2] | 0 | CLPOBPOL_6 | CLPOB Start Polarity |
| | [3] | 0 | PBLKPOL_6 | PBLK Start Polarity |
| | [7:4] | 0 | VPATSEL_6 | Selected V-Pattern Group for V-Sequence 6 |
| | [9:8] | 0 | VMASK_6 | Enable Masking of V-Outputs (Specified by Freeze/Resume Registers) |
| | [11:10] | 0 | HBLKALT_6 | Enable HBLK Alternation |
| | [23:12] | 0 | UNUSED | Unused |
| B1 | [11:0] | 0 | VPATREPO_6 | Number of Selected V-Pattern Group Repetitions for Odd Lines |
| | [23:12] | 0 | VPATREPE_6 | Number of Selected V-Pattern Group Repetitions for Even Lines |
| B2 | [11:0] | 0 | VPATSTART_6 | Start Position in the Line for the Selected V-Pattern Group |
| | [23:12] | 0 | HDLEN_6 | HD Line Length (Number of Pixels) for V-Sequence 6 |
| B3 | [11:0] | 0 | PBLKTOG1_6 | PBLK Toggle Position 1 for V-Sequence 6 |
| | [23:12] | 0 | PBLKTOG2_6 | PBLK Toggle Position 2 for V-Sequence 6 |
| B4 | [11:0] | 0 | HBLKTOG1_6 | HBLK Toggle Position 1 for V-Sequence 6 |
| | [23:12] | 0 | HBLKTOG2_6 | HBLK Toggle Position 2 for V-Sequence 6 |
| B5 | [11:0] | 0 | HBLKTOG3_6 | HBLK Toggle Position 3 for V-Sequence 6 |
| | [23:12] | 0 | HBLKTOG4_6 | HBLK Toggle Position 4 for V-Sequence 6 |
| B6 | [11:0] | 0 | HBLKTOG5_6 | HBLK Toggle Position 5 for V-Sequence 6 |
| | [23:12] | 0 | HBLKTOG6_6 | HBLK Toggle Position 6 for V-Sequence 6 |
| B7 | [11:0] | 0 | CLPOBTOG1_6 | CLPOB Toggle Position 1 for V-Sequence 6 |
| | [23:12] | 0 | CLPOBTOG2_6 | CLPOB Toggle Position 2 for V-Sequence 6 |

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Table XLIV. V-Sequence 7 (VSEQ7) Register Map

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|--|
| B8 | [1:0] | 0 | HBLKMASK_7 | Masking Polarity during HBLK. H1 [0]. H3 [1]. |
| | [2] | 0 | CLPOBPOL_7 | CLPOB Start Polarity |
| | [3] | 0 | PBLKPOL_7 | PBLK Start Polarity |
| | [7:4] | 0 | VPATSEL_7 | Selected V-Pattern Group for V-Sequence 7 |
| | [9:8] | 0 | VMASK_7 | Enable Masking of V-Outputs (Specified by Freeze/Resume Registers) |
| | [11:10] | 0 | HBLKALT_7 | Enable HBLK Alternation |
| | [23:12] | 0 | UNUSED | Unused |
| B9 | [11:0] | 0 | VPATREPO_7 | Number of Selected V-Pattern Group Repetitions for Odd Lines |
| | [23:12] | 0 | VPATREPE_7 | Number of Selected V-Pattern Group Repetitions for Even Lines |
| BA | [11:0] | 0 | VPATSTART_7 | Start Position in the Line for the Selected V-Pattern Group |
| | [23:12] | 0 | HDLEN_7 | HD Line Length (Number of Pixels) for V-Sequence 7 |
| BB | [11:0] | 0 | PBLKTOG1_7 | PBLK Toggle Position 1 for V-Sequence 7 |
| | [23:12] | 0 | PBLKTOG2_7 | PBLK Toggle Position 2 for V-Sequence 7 |
| BC | [11:0] | 0 | HBLKTOG1_7 | HBLK Toggle Position 1 for V-Sequence 7 |
| | [23:12] | 0 | HBLKTOG2_7 | HBLK Toggle Position 2 for V-Sequence 7 |
| BD | [11:0] | 0 | HBLKTOG3_7 | HBLK Toggle Position 3 for V-Sequence 7 |
| | [23:12] | 0 | HBLKTOG4_7 | HBLK Toggle Position 4 for V-Sequence 7 |
| BE | [11:0] | 0 | HBLKTOG5_7 | HBLK Toggle Position 5 for V-Sequence 7 |
| | [23:12] | 0 | HBLKTOG6_7 | HBLK Toggle Position 6 for V-Sequence 7 |
| BF | [11:0] | 0 | CLPOBTOG1_7 | CLPOB Toggle Position 1 for V-Sequence 7 |
| | [23:12] | 0 | CLPOBTOG2_7 | CLPOB Toggle Position 2 for V-Sequence 7 |

Table XLV. V-Sequence 8 (VSEQ8) Register Map

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|--|
| C0 | [1:0] | 0 | HBLKMASK_8 | Masking Polarity during HBLK. H1 [0]. H3 [1]. |
| | [2] | 0 | CLPOBPOL_8 | CLPOB Start Polarity |
| | [3] | 0 | PBLKPOL_8 | PBLK Start Polarity |
| | [7:4] | 0 | VPATSEL_8 | Selected V-Pattern Group for V-Sequence 8 |
| | [9:8] | 0 | VMASK_8 | Enable Masking of V-Outputs (Specified by Freeze/Resume Registers) |
| | [11:10] | 0 | HBLKALT_8 | Enable HBLK Alternation |
| | [23:12] | 0 | UNUSED | Unused |
| C1 | [11:0] | 0 | VPATREPO_8 | Number of Selected V-Pattern Group Repetitions for Odd Lines |
| | [23:12] | 0 | VPATREPE_8 | Number of Selected V-Pattern Group Repetitions for Even Lines |
| C2 | [11:0] | 0 | VPATSTART_8 | Start Position in the Line for the Selected V-Pattern Group |
| | [23:12] | 0 | HDLEN_8 | HD Line Length (Number of Pixels) for V-Sequence 8 |
| C3 | [11:0] | 0 | PBLKTOG1_8 | PBLK Toggle Position 1 for V-Sequence 8 |
| | [23:12] | 0 | PBLKTOG2_8 | PBLK Toggle Position 2 for V-Sequence 8 |
| C4 | [11:0] | 0 | HBLKTOG1_8 | HBLK Toggle Position 1 for V-Sequence 8 |
| | [23:12] | 0 | HBLKTOG2_8 | HBLK Toggle Position 2 for V-Sequence 8 |
| C5 | [11:0] | 0 | HBLKTOG3_8 | HBLK Toggle Position 3 for V-Sequence 8 |
| | [23:12] | 0 | HBLKTOG4_8 | HBLK Toggle Position 4 for V-Sequence 8 |
| C6 | [11:0] | 0 | HBLKTOG5_8 | HBLK Toggle Position 5 for V-Sequence 8 |
| | [23:12] | 0 | HBLKTOG6_8 | HBLK Toggle Position 6 for V-Sequence 8 |
| C7 | [11:0] | 0 | CLPOBTOG1_8 | CLPOB Toggle Position 1 for V-Sequence 8 |
| | [23:12] | 0 | CLPOBTOG2_8 | CLPOB Toggle Position 2 for V-Sequence 8 |

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Table XLVI. V-Sequence 9 (VSEQ9) Register Map

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|--|
| C8 | [1:0] | 0 | HBLKMASK_9 | Masking Polarity during HBLK. H1 [0]. H3 [1]. |
| | [2] | 0 | CLPOBPOL_9 | CLPOB Start Polarity |
| | [3] | 0 | PBLKPOL_9 | PBLK Start Polarity |
| | [7:4] | 0 | VPATSEL_9 | Selected V-Pattern Group for V-Sequence 9 |
| | [9:8] | 0 | VMASK_9 | Enable Masking of V-Outputs (Specified by Freeze/Resume Registers) |
| | [11:10] | 0 | HBLKALT_9 | Enable HBLK Alternation |
| | [23:12] | 0 | UNUSED | Unused |
| C9 | [11:0] | 0 | VPATREPO_9 | Number of Selected V-Pattern Group Repetitions for Odd Lines |
| | [23:12] | 0 | VPATREPE_9 | Number of Selected V-Pattern Group Repetitions for Even Lines |
| CA | [11:0] | 0 | VPATSTART_9 | Start Position in the Line for the Selected V-Pattern Group |
| | [23:12] | 0 | HDLEN_9 | HD Line Length (Number of Pixels) for V-Sequence 9 |
| CB | [11:0] | 0 | PBLKTOG1_9 | PBLK Toggle Position 1 for V-Sequence 9 |
| | [23:12] | 0 | PBLKTOG2_9 | PBLK Toggle Position 2 for V-Sequence 9 |
| CC | [11:0] | 0 | HBLKTOG1_9 | HBLK Toggle Position 1 for V-Sequence 9 |
| | [23:12] | 0 | HBLKTOG2_9 | HBLK Toggle Position 2 for V-Sequence 9 |
| CD | [11:0] | 0 | HBLKTOG3_9 | HBLK Toggle Position 3 for V-Sequence 9 |
| | [23:12] | 0 | HBLKTOG4_9 | HBLK Toggle Position 4 for V-Sequence 9 |
| CE | [11:0] | 0 | HBLKTOG5_9 | HBLK Toggle Position 5 for V-Sequence 9 |
| | [23:12] | 0 | HBLKTOG6_9 | HBLK Toggle Position 6 for V-Sequence 9 |
| CF | [11:0] | 0 | CLPOBTOG1_9 | CLPOB Toggle Position 1 for V-Sequence 9 |
| | [23:12] | 0 | CLPOBTOG2_9 | CLPOB Toggle Position 2 for V-Sequence 9 |

Table XLVII. Field 0 Register Map

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|---|
| D0 | [3:0] | 0 | VSEQSEL0_0 | Selected V-Sequence for Region 0. |
| | [4] | 0 | SWEEP0_0 | Select Sweep Region for Region 0. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI0_0 | Select Multiplier Region for Region 0. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL1_0 | Selected V-Sequence for Region 1. |
| | [10] | 0 | SWEEP1_0 | Select Sweep Region for Region 1. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI1_0 | Select Multiplier Region for Region 1. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL2_0 | Selected V-Sequence for Region 2. |
| | [16] | 0 | SWEEP2_0 | Select Sweep Region for Region 2. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI2_0 | Select Multiplier Region for Region 2. 0 = No Multiplier, 1 = Multiplier. |
| | [21:18] | 0 | VSEQSEL3_0 | Selected V-Sequence for Region 3. |
| | [22] | 0 | SWEEP3_0 | Select Sweep Region for Region 3. 0 = No Sweep, 1 = Sweep. |
| | [23] | 0 | MULTI3_0 | Select Multiplier Region for Region 3. 0 = No Multiplier, 1 = Multiplier. |
| D1 | [3:0] | 0 | VSEQSEL4_0 | Selected V-Sequence for Region 4. |
| | [4] | 0 | SWEEP4_0 | Select Sweep Region for Region 4. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI4_0 | Select Multiplier Region for Region 4. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL5_0 | Selected V-Sequence for Region 5. |
| | [10] | 0 | SWEEP5_0 | Select Sweep Region for Region 5. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI5_0 | Select Multiplier Region for Region 5. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL6_0 | Selected V-Sequence for Region 6. |
| | [16] | 0 | SWEEP6_0 | Select Sweep Region for Region 6. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI6_0 | Select Multiplier Region for Region 6. 0 = No Multiplier, 1 = Multiplier. |
| D2 | [23:18] | 0 | UNUSED | Unused. |
| | | | | |
| D3 | [11:0] | 0 | SCP1_0 | V-Sequence Change Position #1 for Field 0. |
| | [23:12] | 0 | SCP2_0 | V-Sequence Change Position #2 for Field 0. |
| D4 | [11:0] | 0 | SCP3_0 | V-Sequence Change Position #3 for Field 0. |
| | [23:12] | 0 | SCP4_0 | V-Sequence Change Position #4 for Field 0. |
| D4 | [11:0] | 0 | VDLEN_0 | VD Field Length (Number of Lines) for Field 0. |
| | [23:12] | 0 | HDLAST_0 | HD Line Length (Number of Pixels) for Last Line in Field 0. |

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Table XLVII. Field 0 Register Map (continued)

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|---|
| D5 | [3:0] | 0 | VPATSECOND_0 | Selected Second V-Pattern Group for VSG Active Line. |
| | [9:4] | 0 | SGMASK_0 | Masking of VSG Outputs during VSG Active Line. |
| | [21:10] | 0 | SGPATSEL_0 | Selection of VSG Patterns for Each VSG Output. |
| D6 | [11:0] | 0 | SGLINE1_0 | VSG Active Line 1. |
| | [23:12] | 0 | SGLINE2_0 | VSG Active Line 2 (if no Second Line Needed, Set to Same as Line 1 or Max). |
| D7 | [11:0] | 0 | SCP5_0 | V-Sequence Change Position #5 for Field 0. |
| | [23:12] | 0 | SCP6_0 | V-Sequence Change Position #6 for Field 0. |

Table XLVIII. Field 1 Register Map

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|---|
| D8 | [3:0] | 0 | VSEQSEL0_1 | Selected V-Sequence for Region 0. |
| | [4] | 0 | SWEEP0_1 | Select Sweep Region for Region 0. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI0_1 | Select Multiplier Region for Region 0. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL1_1 | Selected V-Sequence for Region 1. |
| | [10] | 0 | SWEEP1_1 | Select Sweep Region for Region 1. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI1_1 | Select Multiplier Region for Region 1. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL2_1 | Selected V-Sequence for Region 2. |
| | [16] | 0 | SWEEP2_1 | Select Sweep Region for Region 2. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI2_1 | Select Multiplier Region for Region 2. 0 = No Multiplier, 1 = Multiplier. |
| | [21:18] | 0 | VSEQSEL3_1 | Selected V-Sequence for Region 3. |
| | [22] | 0 | SWEEP3_1 | Select Sweep Region for Region 3. 0 = No Sweep, 1 = Sweep. |
| | [23] | 0 | MULTI3_1 | Select Multiplier Region for Region 3. 0 = No Multiplier, 1 = Multiplier. |
| D9 | [3:0] | 0 | VSEQSEL4_1 | Selected V-Sequence for Region 4. |
| | [4] | 0 | SWEEP4_1 | Select Sweep Region for Region 4. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI4_1 | Select Multiplier Region for Region 4. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL5_1 | Selected V-Sequence for Region 5. |
| | [10] | 0 | SWEEP5_1 | Select Sweep Region for Region 5. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI5_1 | Select Multiplier Region for Region 5. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL6_1 | Selected V-Sequence for Region 6. |
| | [16] | 0 | SWEEP6_1 | Select Sweep Region for Region 6. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI6_1 | Select Multiplier Region for Region 6. 0 = No Multiplier, 1 = Multiplier. |
| | [23:18] | 0 | UNUSED | Unused. |
| DA | [11:0] | 0 | SCP1_1 | V-Sequence Change Position #1 for Field 1. |
| | [23:12] | 0 | SCP2_1 | V-Sequence Change Position #2 for Field 1. |
| DB | [11:0] | 0 | SCP3_1 | V-Sequence Change Position #3 for Field 1. |
| | [23:12] | 0 | SCP4_1 | V-Sequence Change Position #4 for Field 1. |
| DC | [11:0] | 0 | VDLEN_1 | VD Field Length (Number of Lines) for Field 1. |
| | [23:12] | 0 | HDLAST_1 | HD Line Length (Number of Pixels) for Last Line in Field 1. |
| DD | [3:0] | 0 | VPATSECOND_1 | Selected Second V-Pattern Group for VSG Active Line. |
| | [9:4] | 0 | SGMASK_1 | Masking of VSG Outputs during VSG Active Line. |
| | [21:10] | 0 | SGPATSEL_1 | Selection of VSG Patterns for Each VSG Output. |
| DE | [11:0] | 0 | SGLINE1_1 | VSG Active Line 1. |
| | [23:12] | 0 | SGLINE2_1 | VSG Active Line 2 (if no Second Line Needed, Set to Same as Line 1 or Max). |
| DF | [11:0] | 0 | SCP5_1 | V-Sequence Change Position #5 for Field 1. |
| | [23:12] | 0 | SCP6_1 | V-Sequence Change Position #6 for Field 1. |

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Table XLIX. Field 2 Register Map

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|---|
| E0 | [3:0] | 0 | VSEQSEL_2 | Selected V-Sequence for Region 0. |
| | [4] | 0 | SWEEP0_2 | Select Sweep Region for Region 0. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI0_2 | Select Multiplier Region for Region 0. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL1_2 | Selected V-Sequence for Region 1. |
| | [10] | 0 | SWEEP1_2 | Select Sweep Region for Region 1. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI1_2 | Select Multiplier Region for Region 1. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL2_2 | Selected V-Sequence for Region 2. |
| | [16] | 0 | SWEEP2_2 | Select Sweep Region for Region 2. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI2_2 | Select Multiplier Region for Region 2. 0 = No Multiplier, 1 = Multiplier. |
| | [21:18] | 0 | VSEQSEL3_2 | Selected V-Sequence for Region 3. |
| E1 | [22] | 0 | SWEEP3_2 | Select Sweep Region for Region 3. 0 = No Sweep, 1 = Sweep. |
| | [23] | 0 | MULTI3_2 | Select Multiplier Region for Region 3. 0 = No Multiplier, 1 = Multiplier. |
| | [3:0] | 0 | VSEQSEL4_2 | Selected V-Sequence for Region 4. |
| | [4] | 0 | SWEEP4_2 | Select Sweep Region for Region 4. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI4_2 | Select Multiplier Region for Region 4. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL5_2 | Selected V-Sequence for Region 5. |
| | [10] | 0 | SWEEP5_2 | Select Sweep Region for Region 5. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI5_2 | Select Multiplier Region for Region 5. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL6_2 | Selected V-Sequence for Region 6. |
| | [16] | 0 | SWEEP6_2 | Select Sweep Region for Region 6. 0 = No Sweep, 1 = Sweep. |
| E2 | [11:0] | 0 | SCP1_2 | V-Sequence Change Position #1 for Field 2. |
| | [23:12] | 0 | SCP2_2 | V-Sequence Change Position #2 for Field 2. |
| E3 | [11:0] | 0 | SCP3_2 | V-Sequence Change Position #3 for Field 2. |
| | [23:12] | 0 | SCP4_2 | V-Sequence Change Position #4 for Field 2. |
| E4 | [11:0] | 0 | VDLEN0_2 | VD Field Length (Number of Lines) for Field 2. |
| | [23:12] | 0 | HDLAST_2 | HD Line Length (Number of Pixels) for Last Line in Field 2. |
| E5 | [3:0] | 0 | VPATSECONDD_2 | Selected Second V-Pattern Group for VSG Active Line. |
| | [9:4] | 0 | SGMASK_2 | Masking of VSG Outputs during VSG Active Line. |
| | [21:10] | 0 | SGPATSEL_2 | Selection of VSG Patterns for Each VSG Output. |
| E6 | [11:0] | 0 | SGLINE1_2 | VSG Active Line 1. |
| | [23:12] | 0 | SGLINE2_2 | VSG Active Line 2 (if no Second Line Needed, Set to Same as Line 1 or Max). |
| E7 | [11:0] | 0 | SCP5_2 | V-Sequence Change Position #5 for Field 2. |
| | [23:12] | 0 | SCP6_2 | V-Sequence Change Position #6 for Field 2. |

Table L. Field 3 Register Map

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|---|
| E8 | [3:0] | 0 | VSEQSEL_3 | Selected V-Sequence for Region 0. |
| | [4] | 0 | SWEEP0_3 | Select Sweep Region for Region 0. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI0_3 | Select Multiplier Region for Region 0. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL1_3 | Selected V-Sequence for Region 1. |
| | [10] | 0 | SWEEP1_3 | Select Sweep Region for Region 1. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI1_3 | Select Multiplier Region for Region 1. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL2_3 | Selected V-Sequence for Region 2. |
| | [16] | 0 | SWEEP2_3 | Select Sweep Region for Region 2. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI2_3 | Select Multiplier Region for Region 2. 0 = No Multiplier, 1 = Multiplier. |
| | [21:18] | 0 | VSEQSEL3_3 | Selected V-Sequence for Region 3. |
| | [22] | 0 | SWEEP3_3 | Select Sweep Region for Region 3. 0 = No Sweep, 1 = Sweep. |
| | [23] | 0 | MULTI3_3 | Select Multiplier Region for Region 3. 0 = No Multiplier, 1 = Multiplier. |

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Table L. Field 3 Register Map (continued)

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|---|
| E9 | [3:0] | 0 | VSEQSEL4_3 | Selected V-Sequence for Region 4. |
| | [4] | 0 | SWEEP4_3 | Select Sweep Region for Region 4. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI4_3 | Select Multiplier Region for Region 4. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL5_3 | Selected V-Sequence for Region 5. |
| | [10] | 0 | SWEEP5_3 | Select Sweep Region for Region 5. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI5_3 | Select Multiplier Region for Region 5. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL6_3 | Selected V-Sequence for Region 6. |
| | [16] | 0 | SWEEP6_3 | Select Sweep Region for Region 6. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI6_3 | Select Multiplier Region for Region 6. 0 = No Multiplier, 1 = Multiplier. |
| EA | [23:18] | | UNUSED | Unused. |
| | | | | |
| EB | [11:0] | 0 | SCP1_3 | V-Sequence Change Position #1 for Field 3. |
| | [23:12] | 0 | SCP2_3 | V-Sequence Change Position #2 for Field 3. |
| EC | [11:0] | 0 | SCP3_3 | V-Sequence Change Position #3 for Field 3. |
| | [23:12] | 0 | SCP4_3 | V-Sequence Change Position #4 for Field 3. |
| ED | [11:0] | 0 | VDLEN_3 | VD Field Length (Number of Lines) for Field 3. |
| | [23:12] | 0 | HDLAST_3 | HD Line Length (Number of Pixels) for Last Line in Field 3. |
| EE | [3:0] | 0 | VPATSECON2_3 | Selected Second V-Pattern Group for VSG Active Line. |
| | [9:4] | 0 | SGMASK_3 | Masking of VSG Outputs during VSG Active Line. |
| | [21:10] | 0 | SGPATSEL_3 | Selection of VSG Patterns for Each VSG Output. |
| EF | [11:0] | 0 | SGLINE1_3 | VSG Active Line 1. |
| | [23:12] | 0 | SGLINE2_3 | VSG Active Line 2 (if no Second Line Needed, Set to Same as Line 1 or Max). |
| F0 | [11:0] | 0 | SCP5_3 | V-Sequence Change Position #5 for Field 3. |
| | [23:12] | 0 | SCP6_3 | V-Sequence Change Position #6 for Field 3. |

Table LI. Field 4 Register Map

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|--|
| F0 | [3:0] | 0 | VSEQSEL0_4 | Selected V-Sequence for Region 0. |
| | [4] | 0 | SWEEP0_4 | Select Sweep Region for Region 0. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI0_4 | Select Multiplier Region for Region 0. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL1_4 | Selected V-Sequence for Region 1. |
| | [10] | 0 | SWEEP1_4 | Select Sweep Region for Region 1. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI1_4 | Select Multiplier Region for Region 1. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL2_4 | Selected V-Sequence for Region 2. |
| | [16] | 0 | SWEEP2_4 | Select Sweep Region for Region 2. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI2_4 | Select Multiplier Region for Region 2. 0 = No Multiplier, 1 = Multiplier. |
| | [21:18] | 0 | VSEQSEL3_4 | Selected V-Sequence for Region 3. |
| | [22] | 0 | SWEEP3_4 | Select Sweep Region for Region 3. 0 = No Sweep, 1 = Sweep. |
| | [23] | 0 | MULTI3_4 | Select Multiplier Region for Region 3. 0 = No Multiplier, 1 = Multiplier. |
| F1 | [3:0] | 0 | VSEQSEL4_4 | Selected V-Sequence for Region 4. |
| | [4] | 0 | SWEEP4_4 | Select Sweep Region for Region 4. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI4_4 | Select Multiplier Region for Region 4. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL5_4 | Selected V-Sequence for Region 5. |
| | [10] | 0 | SWEEP5_4 | Select Sweep Region for Region 5. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI5_4 | Select Multiplier Region for Region 5. 0 = No Multiplier, 1 = Multiplier.. |
| | [15:12] | 0 | VSEQSEL6_4 | Selected V-Sequence for Region 6. |
| | [16] | 0 | SWEEP6_4 | Select Sweep Region for Region 6. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI6_4 | Select Multiplier Region for Region 6. 0 = No Multiplier, 1 = Multiplier. |
| F2 | [23:18] | | UNUSED | Unused. |
| | | | | |
| F3 | [11:0] | 0 | SCP1_4 | V-Sequence Change Position #1 for Field 4. |
| | [23:12] | 0 | SCP2_4 | V-Sequence Change Position #2 for Field 4. |
| F4 | [11:0] | 0 | SCP3_4 | V-Sequence Change Position #3 for Field 4. |
| | [23:12] | 0 | SCP4_4 | V-Sequence Change Position #4 for Field 4. |

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Table LI. Field 4 Register Map (continued)

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|---|
| F4 | [11:0] | 0 | VDLEN_4 | VD Field Length (Number of Lines) for Field 4. |
| | [23:12] | 0 | HDLAST_4 | HD Line Length (Number of Pixels) for Last Line in Field 4. |
| F5 | [3:0] | 0 | VPATSECONDD_4 | Selected Second V-Pattern Group for VSG Active Line. |
| | [9:4] | 0 | SGMASK_4 | Masking of VSG Outputs during VSG Active Line. |
| | [21:10] | 0 | SGPATSEL_4 | Selection of VSG Patterns for Each VSG Output. |
| F6 | [11:0] | 0 | SGLINE1_4 | VSG Active Line 1. |
| | [23:12] | 0 | SGLINE2_4 | VSG Active Line 2 (if no Second Line Needed, Set to Same as Line 1 or Max). |
| F7 | [11:0] | 0 | SCP5_4 | V-Sequence Change Position #5 for Field 4. |
| | [23:12] | 0 | SCP6_4 | V-Sequence Change Position #6 for Field 4. |

Table LII. Field 5 Register Map

| Address | Data Bit Content | Default Value | Register Name | Description |
|---------|------------------|---------------|---------------|---|
| F8 | [3:0] | 0 | VSEQSEL0_5 | Selected V-Sequence for Region 0. |
| | [4] | 0 | SWEEP0_5 | Select Sweep Region for Region 0. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI0_5 | Select Multiplier Region for Region 0. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL1_5 | Selected V-Sequence for Region 1. |
| | [10] | 0 | SWEEP1_5 | Select Sweep Region for Region 1. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI1_5 | Select Multiplier Region for Region 1. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL2_5 | Selected V-Sequence for Region 2. |
| | [16] | 0 | SWEEP2_5 | Select Sweep Region for Region 2. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI2_5 | Select Multiplier Region for Region 2. 0 = No Multiplier, 1 = Multiplier. |
| | [21:18] | 0 | VSEQSEL3_5 | Selected V-Sequence for Region 3. |
| | [22] | 0 | SWEEP3_5 | Select Sweep Region for Region 3. 0 = No Sweep, 1 = Sweep. |
| | [23] | 0 | MULTI3_5 | Select Multiplier Region for Region 3. 0 = No Multiplier, 1 = Multiplier. |
| F9 | [3:0] | 0 | VSEQSEL4_5 | Selected V-Sequence for Region 4. |
| | [4] | 0 | SWEEP4_5 | Select Sweep Region for Region 4. 0 = No Sweep, 1 = Sweep. |
| | [5] | 0 | MULTI4_5 | Select Multiplier Region for Region 4. 0 = No Multiplier, 1 = Multiplier. |
| | [9:6] | 0 | VSEQSEL5_5 | Selected V-Sequence for Region 5. |
| | [10] | 0 | SWEEP5_5 | Select Sweep Region for Region 5. 0 = No Sweep, 1 = Sweep. |
| | [11] | 0 | MULTI5_5 | Select Multiplier Region for Region 5. 0 = No Multiplier, 1 = Multiplier. |
| | [15:12] | 0 | VSEQSEL6_5 | Selected V-Sequence for Region 6. |
| | [16] | 0 | SWEEP6_5 | Select Sweep Region for Region 6. 0 = No Sweep, 1 = Sweep. |
| | [17] | 0 | MULTI6_5 | Select Multiplier Region for Region 6. 0 = No Multiplier, 1 = Multiplier. |
| FA | [11:0] | 0 | SCP1_5 | V-Sequence Change Position #1 for Field 5. |
| | [23:12] | 0 | SCP2_5 | V-Sequence Change Position #2 for Field 5. |
| FB | [11:0] | 0 | SCP3_5 | V-Sequence Change Position #3 for Field 5. |
| | [23:12] | 0 | SCP4_5 | V-Sequence Change Position #4 for Field 5. |
| FC | [11:0] | 0 | VDLEN_5 | VD Field Length (Number of Lines) for Field 5. |
| | [23:12] | 0 | HDLAST_5 | HD Line Length (Number of Pixels) for Last Line in Field 5. |
| FD | [3:0] | 0 | VPATSECONDD_5 | Selected Second V-Pattern Group for VSG Active Line. |
| | [9:4] | 0 | SGMASK_5 | Masking of VSG Outputs during VSG Active Line. |
| | [21:10] | 0 | SGPATSEL_5 | Selection of VSG Patterns for Each VSG Output. |
| FE | [11:0] | 0 | SGLINE1_5 | VSG Active Line 1. |
| | [23:12] | 0 | SGLINE2_5 | VSG Active Line 2 (if no Second Line Needed, Set to Same as Line 1 or Max). |
| FF | [11:0] | 0 | SCP5_5 | V-Sequence Change Position #5 for Field 5. |
| | [23:12] | 0 | SCP6_5 | V-Sequence Change Position #6 for Field 5. |

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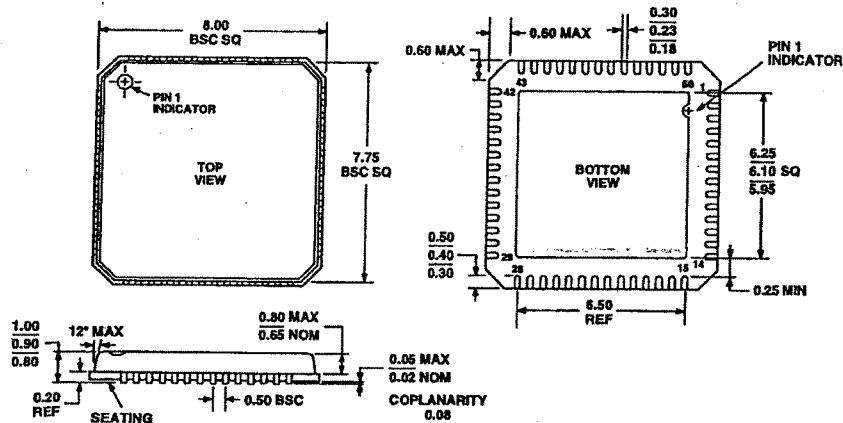
OUTLINE DIMENSIONS

56-Lead Lead Frame Chip Scale Package [LFCSP]

8 mm X 8 mm Body

(CP-56)

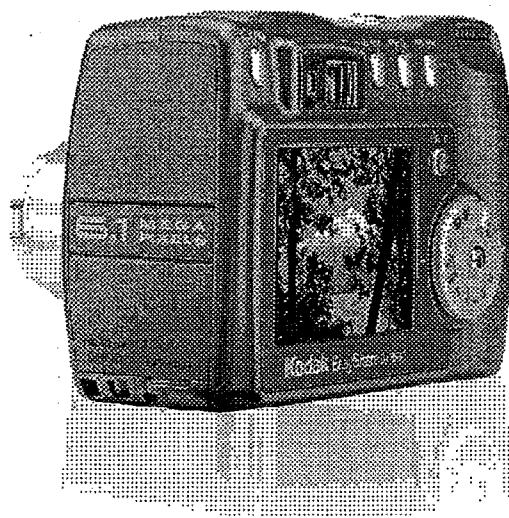
Dimensions shown in millimeters



COMPLIANT TO JEDEC STANDARDS MO-220-VLLD-2

EXHIBIT 11.H

Kodak EasyShare DX7630 zoom digital camera



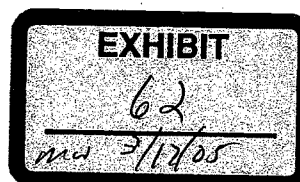
User's guide

www.kodak.com

For interactive tutorials, www.kodak.com/go/howto

For help with your camera, www.kodak.com/go/dx7630support

PLAINTIFF'S
TRIAL EXHIBIT
PTX 157
C.A. No 04-1373(KAJ)



AX036394



Eastman Kodak Company

343 State Street

Rochester, New York 14650

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P/N 4J1082

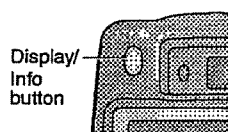
2

Taking pictures and videos

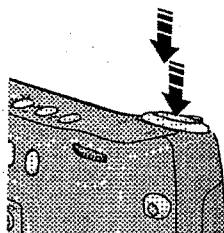
Taking a picture

- 1 Turn the Mode dial to Auto . (See page 11 for other mode descriptions.)

The camera screen displays the mode name and description. To interrupt the description, press any button. To redisplay the description, press the OK button.



- 2 Press the Display/Info button to turn on the camera screen, or use the viewfinder to frame your subject.



- 3 Press the Shutter button **halfway** to set the exposure and focus.

- 4 When the ready light turns green, continue pressing the Shutter button **completely down** to take the picture.

If the ready light is steady or blinking red, release your finger; recompose the scene, and return to Step 3.

When the ready light blinks green, the picture is being saved; you can still take pictures.

NOTE: The camera screen turns on automatically in all modes except Auto. To make the camera screen turn on automatically in Auto, see Liveview (Auto), page 24.







Taking pictures and videos

Using the auto-focus framing marks

When using the camera screen as a viewfinder, framing marks indicate where the camera is focusing. For the best pictures, the camera attempts to focus on foreground subjects, even if the subjects are not centered in the scene.

- 1 With the camera screen on, press the Shutter button **halfway and hold**.


When the framing marks turn red, focus is accomplished.

| While the shutter button is pressed halfway | |
|---|---|
|  |  Center focus |
| |  Center wide focus |
| |  Side focus |
| |  Center and side focus |
| |  Left and right focus |

- 2 Press the Shutter button **the rest of the way down** to take the picture.
- 3 If the camera is not focusing on the desired subject (or if the framing marks disappear and the Ready light blinks red), release your finger, recompose the scene, and return to Step 2.

NOTE: Framing marks do not appear in Landscape or Video mode.

Taking a video

- 1 Turn the Mode dial to Video .
- 2 Use the viewfinder or camera screen to frame your subject.
- 3 Press the Shutter button completely down and release. To stop recording, press and release the Shutter button again.

NOTE: If you prefer, press the Shutter button completely down and hold it for more than 2 seconds to begin recording. To stop recording, release the Shutter button.

You can change optical zoom before (but not during) video recording.

Taking pictures and videos

Using digital zoom

Use digital zoom in any still mode to get an additional 4X magnification beyond optical zoom. Combined zoom settings are from 3.6X to 12X. You must turn on the camera screen before activating digital zoom.

- 1 Press the Display/Info button to turn on the camera screen.
- 2 Pull the Zoom button to the optical zoom limit (3X). Release the button, then pull it again.

The camera screen displays the zoomed image and the zoom indicator.

- 3 Press the Shutter button **halfway and hold** to set the exposure and focus, then press **the rest of the way down** to take the picture.

NOTE: You cannot use digital zoom for video recording.

IMPORTANT: *You may notice a decrease in printed image quality when using digital zoom. The blue slider on the zoom indicator pauses, then turns red when the picture quality is approximately 1 MP. For an acceptable 4 x 6 in. (10 x 15 cm) print, ensure that the slider remains blue.*

Camera modes


| Use this mode | For |
|---|---|
|  Auto | General picture-taking. Automatically sets exposure, focus, and flash. |
| SCN Scene | Point-and-shoot simplicity when taking pictures under 16 special conditions. (See Scene modes, page 13.) |
| P Program | Controlling exposure compensation (how much light enters the camera) and flash compensation. The camera automatically sets the shutter speed and aperture (f-stop) based on the scene lighting. Program mode offers the ease of auto shooting with full access to all menu options. Use the jog dial to select settings. (See P, A, S, M, and C mode, page 14.) Press the Menu button to change other settings. |

EXHIBIT 11.I

EXHIBIT 11.I

IS

CONFIDENTIAL

CERTIFICATE OF SERVICE

I, Julia Heaney, hereby certify that on October 23, 2006, I caused to be electronically filed the foregoing with the Clerk of the Court using CM/ECF, which will send notification of such filing(s) to the following:

Collins J. Seitz, Jr., Esquire
Connolly, Bove, Lodge & Hutz LLP

and that I caused copies to be served upon the following in the manner indicated:

BY HAND DELIVERY AND ELECTRONIC MAIL

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/s/ Julia Heaney
Julia Heaney (#3052)